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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-13* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 04/23/2007 has been entered.

2.   This communication is responsive to Amendment, filed 04/23/2007.

        Claims 8-13 are pending in this application.   Claim 8 is independent claim.   In the

Amendment, claim 8 has been amended.   This action is made non-Final.

3.   The rejection of claims 8-13 under 35 U.S.C. §101 has been withdrawn in view of the

amendment.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

        This application currently names joint inventors. In considering patentability of the claims under 35

U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time

any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the

obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly

owned at the time a later invention was made in order for the examiner to consider the applicability of 35

U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5.   Claims 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanska (US

Patent No. 6,654,755), in view of Chin et al. (US Patent No. 6,470,277).

As per claim 8, Vanska teaches a data search system comprising a data center for

distributing data and a user's facility for receiving the data distributed from the data center to use

the data for a data search, the data center including at least one computer which comprises:

means for downloading data from a plurality of databases *(i.e. gathering and storing data*

from a plurality of sources, col. 1, lines 58-67);

means for generating link information among the plurality of database that follows the

origin of the downloaded data *(i.e. The service node contains elements A, B, and C. Element A is*

a knowledge mapping element which includes a link catalog and data buffer. Element B is an

element which includes profiling, filtering, and context maps in the corporate, department,

group, and personal levels while element C includes a media adapter, data formatter, and

portals, col. 2, lines 16-24);

means for generating detailed information of each data entry, based on the downloaded

data *(i.e. Alternatively, the information may pass through an automated data organizer and then*

sorted and subjected to knowledge management based on taxonomy (that is, classification). The

information, then classified as to organization, technology, or process, for example, is then

forwarded to the user based on a context map determined for the user, col. 2, lines 42-48);

a route table defining a data search rule for searching data of interest in the databases *(i.e.*

FIG. 5 illustrates the gathering and providing of information data to a user and basically

illustrates the knowledge mapping of the service node of FIG. 4. That is, selected information

sources from either the Internet or the corporate Intranet or other sources may reach the user

via various paths, col. 4, lines 32-37; FIG. 4 illustrates the flow of information between internal

and external sources and the user via the service node, col. 4, lines 16-17);

Vanska does not fairly teach:

means for generating data for homology search of said each data entry, based on the

downloaded data;

means for distributing to the user's facility the link information, the detailed information

of said each data entry, the data for homology search, and the route table, and the user's facility

including at least one computer which comprises:

means for conducting the data search using the link information, the detailed

information of said each data entry, the data for homology search, and the route table distributed

from the data center.

However, Chin teaches:

means for generating data for homology search of said each data entry, based on the

downloaded data *(i.e. extracting and integrating information from various information sources*

and results of various analyses, and storing the integrated information in a form which

facilitates identification of candidate genes, col. 2, lines 11-19);

means for distributing to the user's facility the link information, the detailed information

of said each data entry, the data for homology search, and the route table *(i.e. the present*

invention accesses results of a homology search for the plurality of DNA sequences, annotative

information for the plurality of DNA sequences indicating the biochemical functions and

physiological roles of the plurality of DNA sequences, gene expression profile data for the

plurality of DNA sequences describing behavioral patterns of the plurality of DNA sequences,

results from clustering the plurality of DNA sequences based on the behavioral patterns of the

plurality of DNA sequences as described by the gene expression profile data, and other

information, col. 2, lines 20-33), and the user's facility including at least one computer which

comprises:

> means for conducting the data search using the link information, the detailed

information of said each data entry, the data for homology search, and the route table distributed

from the data center *(i.e. In response to the queries, the present invention searching the database*

storing information for the plurality of DNA sequences to identify a set of DNA sequences which

satisfy the query criteria. The set of DNA sequences are then output as a result of the query, col.

2, lines 34-40).

It would have thus been obvious to one of ordinary skill of the art having the teaching of

Vanska and Chin at the time the invention was made to modify the system of Vanska to include

the limitations as taught by Chin.

One of ordinary skill in the art would be motivated to make this combination in order to

extract and integrating information from various information sources and results of various

analyses, and storing the integrated information in a form which facilitates identification of

candidate genes in view of Chin, as doing so would give the added benefit of facilitating

identification of candidate genes from a plurality of DNA sequences as taught by Chin

(Summary).

As per claim 9, Chin teaches the data search system according to claim 8, wherein the

means for generating link information generates the link information by extracting from the

downloaded data correspondence between said each data entry in the plurality of databases to

associated said each data entry *(i.e. Server 14 is responsible for receiving information requests*

from client systems 16, performing processing required to satisfy the requests, and for

forwarding the results corresponding to the requests back to the requesting client system. The

processing required to satisfy the request may be performed by server 14 or may alternatively be

delegated to other servers connected to communication network 12, col. 4, lines 17-55).

As per claim 10, Chin teaches the data search system according to claim 8, wherein the

means for generating detailed information of each data entry generates the detail information of

said each data entry by extracting from the downloaded data ID data and detailed description

corresponding to said each data entry *(i.e. The present invention extracts relevant information*

from the homology analysis output as described above for each input DNA sequence, organizes

the information, and stores it in a format which facilitates further processing and analysis of the

information (step 54). According to an embodiment of the present invention, the information

extracted from the BLAST, Smith-Waterman and HMM search output is stored in a database.

The information extracted and stored by the present invention during step 54 is shown by the

database schema depicted in FIG. 5. FIGS. 7 and 8 depict other database structures for storing

information according to an embodiment of the present invention, col. 10, line 5 to col. 9, line

60).

As per claim 11, Chin teaches the data search system according to claim 8, wherein the means for generating data for homology search of said each data entry generates the data for homology search of said each data entry by extracting from the downloaded data Id data and sequence data corresponding to said each data entry *(i.e. The present invention extracts relevant information from the homology analysis output as described above for each input DNA sequence, organizes the information, and stores it in a format which facilitates further processing and analysis of the information (step 54). According to an embodiment of the present invention, the information extracted from the BLAST, Smith-Waterman and HMM search output is stored in a database. The information extracted and stored by the present invention during step 54 is shown by the database schema depicted in FIG. 5. FIGS. 7 and 8 depict other database structures for storing information according to an embodiment of the present invention, col. 10, line 5 to col. 9, line 60).*

As per claim 12, Vanska teaches the data search system according to claim 8, wherein the route table stored the data search rule which restricts searches only along links following an origin of said data of interest as define therein *(i.e. The service node contains elements A, B, and C. Element A is a knowledge mapping element which includes a link catalog and data buffer. Element B is an element which includes profiling, filtering, and context maps in the corporate, department, group, and personal levels while element C includes a media adapter, data formatter, and portals, col. 2, lines 16-24).*

As per claim 13, Chin teaches the data search system according to claim 8, wherein the

means for conduct the data search in the user's facility conducts the data search without

following links of routes which are not defined in the search rule following an origin of said data

of interest, even if there is other link information between said each data entry defined in the

route table *(i.e. The present invention extracts relevant information from the homology analysis*

output as described above for each input DNA sequence, organizes the information, and stores it

in a format which facilitates further processing and analysis of the information (step 54).

According to an embodiment of the present invention, the information extracted from the BLAST,

Smith-Waterman and HMM search output is stored in a database. The information extracted and

stored by the present invention during step 54 is shown by the database schema depicted in FIG.

5. FIGS. 7 and 8 depict other database structures for storing information according to an

embodiment of the present invention, col. 10, line 5 to col. 9, line 60).

Response to Arguments

6.   Applicant's arguments regarding claim 8 is being amended to more particularly point out

and distinctly claim the subject invention have been considered, but are moot in view of the new

ground(s) of rejection.

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's
disclosure.

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Miranda Le whose telephone number is (571) 272-4112. The
examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Cottingham, can be reached on (571) 272-7079. The fax number to this Art Unit is 571-273-8300.

   Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Miranda Le

June 26, 2007

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